

SECTION IV.

Summary of Utilization and Disparity Analysis for ITD Contracts

The Federal DBE Program requires states to determine the percentage of the overall annual DBE goal that can be achieved through neutral means and the percentage, if any, to be achieved through race- and gender-based measures. Relative utilization of minority- and women-owned firms on state-funded transportation construction and engineering contracts, which do not have DBE contract goals, is one way of examining what is achieved through neutral means.

ITD Requests for Bids and Proposals advertised after January 10, 2006 did not have DBE contract goals. Therefore, state contracts, and federally-funded contracts with bid open or award dates after February 1, 2006, are examined as the sets of contracts without DBE goals.¹ Utilization on these subsets of contracts can be compared with utilization of minority- and women-owned firms for federally-funded contracts when the DBE contract goals program was in effect.

As outlined in Figure IV-1, “utilization” of minority- and women-owned firms refers to the percentage of contract dollars going to MBE/WBEs. BBC examined utilization of minority- and women-owned firms as prime contractors and subcontractors in ITD construction and engineering contracts. The study period was 2002 through 2006.

Figure IV-1. Defining and measuring “utilization”

“Utilization” of minority- and women-owned firms refers to the share of contract dollars going to these MBEs and WBEs. BBC reports results for both certified DBEs (firms certified as disadvantaged business enterprises in the year of the specific contract), and for all minority- and women-owned firms. BBC also examines results by race/ethnic/gender group.

Utilization is expressed as a percentage of prime contract and subcontract *dollars*. “Prime contract dollars” are total contract dollars less the money identified as going to subcontractors. For example, WBE utilization of 5 percent means that 5 percent of the contract dollars examined went to women-owned firms. Expressed another way, 5 cents of every contract dollar went to WBEs.

Information concerning utilization of minority- and women-owned firms is useful on its own, but is even more instructive when compared with a benchmark for the level of utilization expected given relative availability of minority- and women-owned firms for a particular set of contracts. BBC introduces this “disparity analysis” at the end of this section of the report.

Figure IV-2. MBE/WBE utilization and DBE utilization

To analyze the issues raised in implementing the Federal DBE Program, BBC examined minority- and women-owned in two ways:

Minority- and women-owned firms. Firms that reported they were owned and controlled by minorities or women (or identified as such in relevant databases) are counted as MBEs and WBEs in the utilization and availability analysis. “WBEs” refers to white women-owned firms.

Certified Disadvantaged Business Enterprises (DBE). BBC counted a firm as a certified DBE if it was identified as certified in the ITD DBE Program database at the bid open date.

¹ Most contracts advertised in early January, which may have had DBE contract goals, would have been awarded before February 1, 2006. ITD sometimes reported aspirational levels of participation for DBEs on federally-funded contracts after January 9, 2007, which were for information purposes and did not require any action on the part of the bidder.

BBC's analysis of MBE/WBE utilization goes far beyond what ITD currently reports to the USDOT:

- In addition to utilization of certified DBEs, BBC examined utilization of minority- and women-owned firms including firms that are too large to be certified as DBEs and those that have never sought DBE certification. (Reasons for studying MBE/WBEs including those not currently certified as DBEs are discussed in Section II.) The disparity analysis performed at the end of this section focuses solely on minority- and women-owned firms, not DBE-certified firms.
- The study team collected data on subcontractor utilization in a consistent fashion for DBEs, MBE/WBEs and majority-owned firms to be able to accurately report DBE and MBE/WBE share of subcontract dollars for sets of contracts with and without DBE contract goals. Data collection procedures are summarized in Figure IV-3 and explained in greater detail in Appendix D.

Figure IV-3. Utilization data collection

The utilization information the BBC study team collected for construction and engineering contracts is based primarily on dollars at time of award and requests to sublet to specific subcontractors. BBC obtained electronic records of requests to sublet from ITD contract files. Utilization based on dollars at time of award and request to sublet may not perfectly match utilization based on actual payments to prime contractors and subcontracts at the end of the project. These payment data were not consistently available for construction contracts.

In total, BBC collected and analyzed information for 4,561 prime contracts and subcontracts pertaining to ITD transportation construction and engineering projects. This total includes task orders for engineering-related work issued under term agreements with ITD consultants. Utilization on ITD construction and engineering contracts is based on BBC's attempts to obtain information on all federally- and state-funded contracts for 2002 through 2006, including federally-funded contracts administered through ITD on behalf of local governments.

The BBC study team coded information concerning prime contract/subcontract status, type of work performed, size of contract element, location of contract, and funding based on information collected for each contract element. Appendix D provides additional information as to how these data elements were collected.

Results of Utilization Analysis

Federally-funded transportation contracts when DBE goals were in place. Prior to moving to an all race- and gender-neutral implementation of the Federal DBE Program, ITD was setting DBE contract goals for federally-funded contracts. Prime contractors bidding on ITD projects would need to include DBE participation at a level to meet the goals or show good faith efforts to do so. ITD set 0 percent DBE goals on some federally-funded contracts. For engineering contracts, ITD only set DBE project goals for federally-funded contracts awarded through Requests for Proposals (RFPs).

BBC examined 3,003 prime contracts and subcontracts for federally-funded ITD contracts from 2002 through January 2006. During this period, 13.6 percent of prime contract and subcontract dollars went to minority- and women-owned firms.

In Figure IV-4 on the following page (and similar figures in Sections V through VIII), DBE utilization is shown in the bottom portion of the bar. The difference between total MBE/WBE utilization (the statistic shown on top of the bar) and DBE utilization is utilization of MBE/WBEs that were not certified as DBEs at the time of the corresponding contract. For example, from 2002 through 2006, BBC found that 7.3 percent of federally-funded contract dollars went to firms certified as DBEs at the time of the contract. Almost as much work went to MBEs/WBEs that were not DBE-certified (6.3 percent of total dollars) as went to DBEs (7.3 percent).

DBEs and MBE/WBE utilization on state-funded contracts. ITD has implemented race- and gender-neutral measures to encourage MBE/WBE participation on state-funded contracts. The 2002 through 2006 state-funded contracts awarded by ITD reflect MBE/WBE utilization for contracts without DBE contract goals. BBC studied MBE/WBE utilization for 1,118 state-funded transportation construction and engineering contracts and subcontracts for this time period.

Comparison of MBE/WBE utilization on state-funded contracts with MBE/WBE utilization on federally-funded contracts suggests that, without goals, utilization of minority- and women-owned firms is similar to the level found when goals were applied. As shown in Figure IV-4, MBE/WBE utilization was 14.6 percent on state-funded contracts, one percentage point higher than utilization on federally-funded contracts through January 2006. Utilization of certified DBEs was 5.4 percent for state-funded contracts. MBE/WBEs not certified as DBEs received a greater share of state-funded contract dollars than firms certified as DBEs.

Figure IV-4.
MBE/WBE share of prime contract/subcontract dollars for transportation construction and engineering contracts, federal vs. state funding

Note:

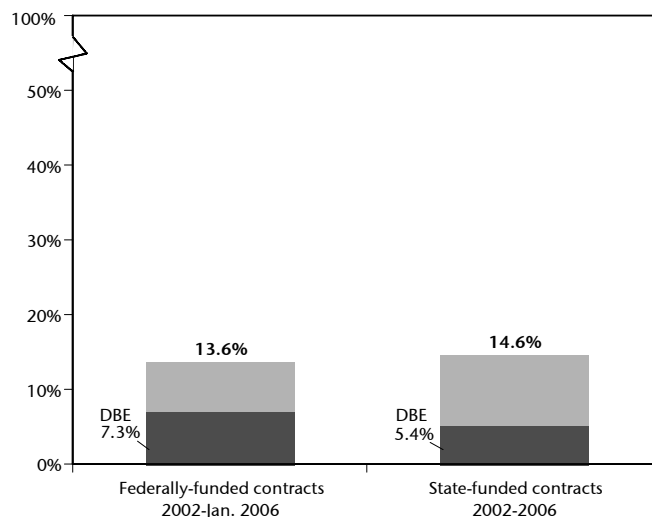
Certified DBE utilization.

For more detail, and for results by DBE group, see Figures E-40 and E-39 in Appendix E.

Number of contracts/subcontracts analyzed is 3,003 for 2002–Jan. 2006 federally-funded contracts and 1,118 for 2002–2006 state-funded contracts.

Source:

BBC Research and Consulting from data on ITD contracts.



Federally-funded contracts after January 2006. ITD moved to an all race- and gender-neutral program in January 2006. Based on the federally-funded construction and engineering contracts BBC identified between February 1 and the end of December 2006, ending contract goals on federally-funded contracts may have decreased MBE/WBE participation in these contracts. Overall MBE/WBE utilization on federally-funded contracts from February through December 2006 was 10.8 percent. Certified DBEs received 4.9 percent of federally-funded contract dollars after discontinuing DBE contract goals compared with 7.3 percent DBE utilization through January 2006.

Figure IV-5 portrays DBE and MBE/WBE utilization on federally-funded contracts before and after January 2006. It is important to note that MBE/WBE utilization for these two time periods may differ because of the contract types, sizes and locations in these two time periods. The disparity analysis at the close of this report section makes comparisons in utilization after adjusting for these and other factors. In addition, the data for February through December 2006 are based on a smaller number of prime contracts and subcontracts (440) than for 2002 through January 2006 (3,003).

Figure IV-5.
**MBE/WBE share of prime/
 subcontract dollars for federally-
 funded transportation construction
 and engineering contracts, before
 and after January 2006**

Note:

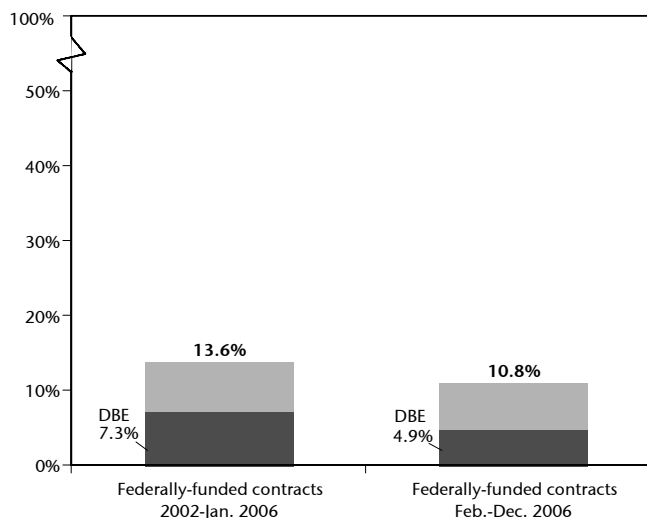
Certified DBE utilization.

For more detail, and for results by DBE group, see Figures E-40 and E-39 in Appendix E.

Number of contracts/subcontracts analyzed is 3,003 for 2002–Jan. 2006 federally-funded contracts and 440 for Feb.–Dec. 2006 federally-funded contracts.

Source:

BBC Research and Consulting from data on ITD contracts.



Utilization of firms by race and gender group. White women-owned firms received the largest share of WBE/MBE prime/subcontract dollars on ITD federally- and state-funded contracts. Minority-owned firms received a much smaller share of contract dollars. Figure IV-6 on the following page reports these results.

Women-owned firms. The share of ITD contract dollars going to WBEs was 12 percent for both federally-funded contracts through January 2006 and state-funded contracts for 2002–2006. WBE utilization was 9.5 percent for federally-funded contracts in February through December 2006. Only counting white women-owned firms that were DBE-certified, utilization was about 6 percent for federally-funded contracts through January 2006 and about 4 percent for later federally-funded contracts and for state-funded contracts. (Note that “women-owned firms” in this report refers to businesses owned by white women. Utilization of firms owned by minority women is included in the utilization figures for the specific race or ethnic group.)

Native American-owned firms. Native American-owned firms received 0.7 percent of federally-funded contract dollars for 2002 through January 2006 and 1.2 percent of dollars for state-funded contracts. Almost all of the utilization of Native American-owned firms pertains to firms that are certified as DBEs.

Hispanic American-owned firms. On federally-funded contracts for 2002–January 2006, 0.5 percent of combined prime contract and subcontract dollars went to Hispanic American-owned firms, similar to what BBC found for state-funded contracts. Utilization of Hispanic American-owned firms was 1.0 percent for federally-funded contracts from February through December 2006. Most of the utilization of Hispanic American-owned firms on federally-funded contracts went to DBE-certified firms (see Figure IV-6).

Asian-Pacific American-owned firms. Asian-Pacific American-owned firms received 0.8 percent of total state-funded contract dollars and about 0.1 percent of federally-funded contract dollars for contracts through January 2006. Non-certified firms accounted for nearly all of the utilization of Asian-Pacific American-owned firms.

Subcontinent Asian American-owned firms. Subcontinent Asian American-owned firms received \$239,000 of federally-funded contract dollars for 2002 through January 2006, less than one-tenth of one percent of the \$702 million in federally-funded contract dollars for this time period. About \$7,000 of state-funded contract dollars went to Subcontinent Asian American-owned firms, which also accounts for less than one-tenth of one percent of the total for state contracts.

African American-owned firms. No firms identified as African American-owned received any ITD prime contracts or subcontracts among the transportation construction and engineering contracts researched by the study team.

DBEs owned by white males. No white male firms certified as DBEs received any ITD prime contracts or subcontracts among the transportation construction and engineering contracts researched by the study team.

Figure IV-6.
DBE and MBE/WBE share of prime/subcontract dollars for transportation construction and engineering contracts, by race/ethnicity/gender

	Federally-funded contracts		State-funded contracts
	2002–Jan. 2006	Feb.–Dec. 2006	2002–2006
MBE/WBEs			
African American-owned	0.0%	0.0%	0.0%
Asian-Pacific American-owned	0.1	0.0	0.8
Subcontinent Asian American-owned	0.0	0.0	0.0
Hispanic American-owned	0.5	1.0	0.4
Native American-owned	<u>0.7</u>	<u>0.2</u>	<u>1.2</u>
Total MBE	1.3%	1.3%	2.4
WBE (white women-owned)	<u>12.3</u>	<u>9.5</u>	<u>12.3</u>
Total MBE/WBE	13.6%	10.8%	14.6%
DBEs			
African American-owned	0.0%	0.0%	0.0%
Asian-Pacific American-owned	0.0	0.0	0.0
Subcontinent Asian American-owned	0.0	0.0	0.0
Hispanic American-owned	0.5	0.6	0.1
Native American-owned	<u>0.6</u>	<u>0.2</u>	<u>1.0</u>
Total MBE	1.1%	0.8%	1.0%
WBE (white women-owned)	6.1	4.1	4.3
White male-owned DBE	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Total DBE	7.3%	4.9%	5.4%

Note: Numbers rounded to nearest tenth of 1 percent. Numbers may not add to totals due to rounding.

For more detail, see Figures E-40, E-39 and E-80 in Appendix E.

Number of contracts/subcontracts analyzed is 3,003 for 2002–Jan. 2006 federally-funded, 440 for Feb.–Dec. 2006 federally-funded and 1,118 for 2002–2006 state-funded contracts.

Source: BBC Research and Consulting from data on ITD contacts.

Overall Disparity Analysis

Interpreting any differences in MBE/WBE utilization for contracts with and without goals is difficult because the types, sizes and locations of contracts and subcontracts may differ. Federally-funded contracts through January 2006 could also be different from contracts from February through December 2006. In addition, simple comparisons of MBE/WBE utilization for contracts with and without goals do not show whether minority- and women-owned firms are under- or over-utilized relative to the utilization expected based on MBE/WBE availability for those specific sets of contracts and subcontracts. It may be that utilization of MBE/WBEs is below what would be expected even with DBE goals in place. Alternatively, MBE/WBE utilization could exceed availability for contracts without goals.

The following disparity analysis controls for differences in types, sizes and locations of contracts and subcontracts. By comparing actual utilization with the relative availability of minority- and women-owned firms to perform a specific set of prime contracts and subcontracts, BBC can determine how contract goals affect MBE/WBE utilization and whether current neutral remedies are sufficient to bring MBE/WBE utilization in line with relative MBE/WBE availability. If disparities exist, disparity analysis helps to identify the types of contracts and subcontracts and the race/ethnicity/gender groups showing disparities.

Methodology. BBC compared percentage utilization of minority- and women-owned firms by race/ethnicity/gender with the share of contract dollars that might go to minority- and women-owned firms based on BBC availability analysis.

Example of a disparity analysis table. The balance of this section of the report, and the disparity results presented in the sections that follow, are based on the detailed disparity tables found in Appendix E. Therefore, it is useful to describe the detailed analysis from which BBC draws results.

Figure IV-7 on page 8 presents an example of a disparity table from Appendix E (it is labeled Figure E-38 in Appendix E). This disparity table pertains to ITD federally-funded construction and engineering contracts awarded for the entire 2002-2006 study period. It includes dollars for prime contractors and subcontractors (and suppliers when data were available) for contracts throughout Idaho. The parameters of the set of contracts being examined are noted in the heading of each table. Appendix E contains more than 150 similar tables for different sets of contract elements. Each set of contract elements is for a specific:

- Funding source (all funding sources, federally-funded or state-funded);
- Type of work (combined transportation construction and engineering, all construction, all engineering, and two subsets of engineering depending on whether or not the contract was awarded through an RFP process);
- Time period (years), which is how BBC knows whether or not the DBE contract goals program was in operation;
- Contract role (combined prime/sub, only prime contracts, and only subcontracts); and
- Region (contracts statewide in Northern Idaho and in Southern Idaho).

Certain analyses focus on small contracts, which is also noted. The final table in Appendix E presents availability information limited to firms that have not graduated from the DBE Program and did not appear to have 2006 revenues exceeding the size limits for DBE certification.

Each of the disparity tables includes the same columns and rows.

Utilization. Column (a) of this table notes the number of prime contracts and subcontracts in the specific set of contracting data under examination, in this case, 3,443 total contracts and subcontracts.

Column (b) identifies the dollars examined in that set of contract elements. Because “prime contract dollars” refers to the dollars retained by the prime contractor after subtracting subcontract dollars, the combined prime/subcontract analyses should equal the total contract amounts. Dollars are reported in thousands. This disparity table examines contract dollars totaling \$853,212,000.

Figure IV-7 also has rows for each firm type. “All firms” in row (1) pertains to combined majority-, minority- and women-owned firms. “MBEs” refers to all minority-owned firms, whether or not they are DBE-certified. “WBEs” are white women-owned firms. Utilization and availability data for individual minority groups add up to the total for MBEs (in some cases, numbers may not perfectly add due to rounding).

The bottom half of Figure IV-7 reports utilization for firms that were certified as DBEs in the years in which the contract was awarded. BBC included a row for white male-owned DBEs even though no such DBE-certified firms appeared to have received ITD contracts or subcontracts examined in this study. DBE utilization data reported in the bottom half of Figure IV-7 were prepared independently from ITD and will not match DBE utilization reports prepared by ITD.

Column (c) portrays relative utilization by group on a percentage basis. Each percentage in column (c) is calculated by dividing dollars going to that group in column (b) by the total dollars in the set of contracts or subcontracts as shown in row (1) of column (b).

Figure IV-7.
MBE/WBE utilization, availability and disparity analysis for prime contracts/subcontracts
on federally-funded transportation construction and engineering contracts, 2002-2006

Firm Type	(a) Number of contract elements	(b) Dollars (thousands)	(c) Actual utilization (column b/b1) %	(d) Utilization benchmark (availability) %	(e) Difference (column c-d) %	(f) Disparity index (c/d)x100
(1) All firms	3,443	\$853,212				
(2) MBE/WBE	901	\$111,532	13.1	15.3	-2.2	85.4
(3) WBE	687	\$100,646	11.8	11.6	0.2	101.3
(4) MBE	214	\$10,886	1.3	3.7	-2.4	34.8
(5) African American-owned	0	\$0	0.0	0.1	-0.1	0.0
(6) Asian-Pacific American-owned	11	\$666	0.1	0.2	-0.1	46.4
(7) Subcontinent Asian American-owned	5	\$239	0.0	0.2	-0.1	15.8
(8) Hispanic American-owned	155	\$5,068	0.6	1.0	-0.4	58.7
(9) Native American-owned	43	\$4,913	0.6	2.2	-1.6	26.5
(10) DBE-certified	668	\$58,270	6.8			
(11) Women-owned DBE	488	\$49,207	5.8			
(12) Minority-owned DBE	180	\$9,062	1.1			
(13) African American-owned DBE	0	\$0	0.0			
(14) Asian-Pacific American-owned DBE	1	\$2	0.0			
(15) Subcontinent Asian American-owned DBE	5	\$239	0.0			
(16) Hispanic American-owned DBE	139	\$4,102	0.5			
(17) Native American-owned DBE	35	\$4,719	0.6			
(18) White male-owned DBE	0	\$0	0.0			

Notes: Spreadsheet rounds numbers to nearest thousand dollars or tenth of one percent. WBE is white women-owned firms.

Source: BBC Research and Consulting Disparity Analysis.

Relative availability. BBC developed an estimate of relative availability of firms for each race/ethnicity/gender group following the procedures described in Section II. Availability is also represented as a percentage. The availability figure for a particular group represents a benchmark with which to evaluate relative utilization for that group for a particular set of contracts. BBC separately calculated relative availability for each group and set of contracts and subcontracts according to the procedures outlined in Section II (and described in more detail in Appendix D).

Column (d) of Figure IV-7 reports relative availability for this disparity table. Based on the types of work involved in the prime contracts and subcontracts included in the Figure IV-7 analysis, plus the sizes of these contract elements and their geographic location, BBC estimated that 15.3 percent of federally-funded contract dollars from 2002 through 2006 would be expected to go to minority- and women-owned firms after considering each firm's specialization, interest and qualifications in prime versus subcontract work, geographic reach and bid capacity of firms to perform this work (and whether or not the firm was in business in the year of the contract). The 15.3 percent overall MBE/WBE availability figure reported in row (2) of column (d) is the same percentage that is used as the starting point for the base figure analysis discussed in Section II.

Differences between utilization and availability. The first step in analyzing whether there was a disparity between the relative utilization of a particular group and its relative availability is to subtract percentage utilization from percentage availability. When examining all MBE/WBEs in Figure IV-7, utilization was 2.2 percentage points below availability. This difference is reported in column (e).

It is sometimes difficult to interpret absolute differences between relative utilization and relative availability, especially when utilization and availability are very small. Therefore, BBC also calculated a "disparity index," which divides percentage utilization by percentage availability and multiplies the result by 100. An index of "100" means that there is "parity" between relative utilization and availability for a particular group. An index below 100, especially below 80, may indicate a substantial disparity. Column (f) in the disparity tables provides the disparity index for each group. For example, the disparity index of 85.4 means that overall MBE/WBE utilization for federally-funded contracts was 85 percent of what would be expected given the relative availability of minority- and women-owned firms to perform that work.

Note that all percentages in the disparity tables were rounded to the nearest tenth of 1 percent after making all calculations. Percentages correctly add and subtract, even though the rounding may make actual sums appear to differ by one tenth of 1 percent. In addition, the disparity index is derived from the detailed data for percentage utilization and availability before any rounding.

BBC applied the following rules when the disparity indices calculated were exceedingly large or could not be calculated because no firms were identified as available for the contracts under examination:

- When BBC's calculations showed a disparity index exceeding 200, BBC reported an index of "200+".
- When there was no utilization and 0 availability for a particular group for a set of contracts, BBC reported "parity" between utilization and availability (indicated by a disparity index of "100").
- When BBC identified utilization for a group but 0 availability (which could occur for many reasons, including the fact that one or more utilized firms were out of business by the time of BBC's availability survey), BBC reported a disparity index of "200+".

The DBE utilization statistics at the bottom of Figure IV-7 are provided as reference. BBC did not conduct disparity analyses for certified DBEs for the reasons described in Section II.

Results of a disparity analysis. The disparity analysis shown in Figure IV-7 reflects the influence of DBE contract goals for the first four out of the five years of contracts examined. Any lack of disparity for a particular MBE/WBE group could suggest that the DBE contract goals program was effective in increasing utilization for that group. Any disparities might indicate that the DBE contract goals program was not fully effective in addressing barriers for a particular group.

Column (c) indicates that the combined prime contract and subcontract utilization of MBE/WBEs was 13.1 percent for these contracts. This utilization was slightly below what would be anticipated based on relative availability to perform the work involved in these contracts — 15.3 percent — as shown in column (d). Utilization of MBE/WBEs was 2.2 percentage points below availability, a statistic presented in column (e).

Dividing 13.1 percent utilization by 15.3 percent availability and multiplying by 100 yields a disparity index of 85. There is a disparity between overall utilization and availability of minority- and women-owned firms even with the DBE contract goals program in place, but because the index exceeds a value of 80, this disparity is not substantial.

Figure IV-7, and the other disparity tables in Appendix E, allow exploration of the components of any overall disparity for MBE/WBEs. As Figure IV-7 demonstrates, utilization of women-owned firms (11.8 percent) is about the same as the relative availability of women-owned firms to perform the work involved in this set of contracts (11.6 percent). The disparity index for women-owned firms is 101. There is no disparity for the utilization of women and firms for this set of contracts. This might indicate that the DBE contract goals program implemented for most of the 2002-2006 time period was effective in increasing utilization of women-owned firms.

On the other hand, only 1.3 percent of prime and subcontract dollars on federally-funded contracts went to minority-owned firms, far short of the 3.7 percent expected based on relative availability of MBEs to perform this work. The disparity index for MBEs for federally-funded contracts is 34.8, a substantial disparity. Even with DBE contract goals in place for most of the 2002-2006 time period, utilization of minority-owned firms was about one-third of what would be expected. Large disparities are evident for each minority group shown in Figure IV-7.

Figure IV-8 summarizes the disparity indices from Figure IV-7. A line down the center of the graph shows an index of 100, which indicates “parity” between relative utilization and relative availability for a group. Indices under 100 may indicate a disparity between utilization and availability. The graph ends at a disparity index of 200 even though, in some cases, disparity indices exceed 200. For reference, a line is drawn at an index of 80. As previously explained, some courts use 80 as a benchmark for what may indicate a substantial disparity.

As Figure IV-8 shows, minority- and women-owned firms, overall, received 85 percent of what would be expected based on overall MBE/WBE availability for these contracts, and utilization of women-owned firms was essentially “parity.” Utilization of each minority group is below what would be expected for that group, ranging from 0 for African American-owned firms to 59 for Hispanic American-owned firms.

The information presented in balance of this report section, as well as the next four sections, explores (a) whether or not there would be disparities in ITD's utilization of WBEs absent a DBE goals program and (b) why any overall disparities between utilization and availability for MBEs may be occurring.

Figure IV-8.
Disparity indices for
MBE/WBE utilization as
prime contractors and
subcontractors on federally-
funded transportation
construction and
engineering contracts,
2002-2006

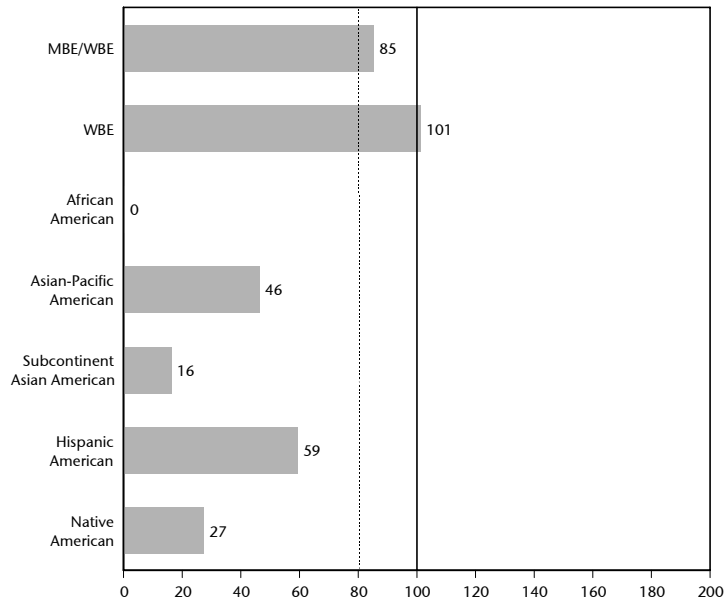
Note:

3,443 contracts/subcontracts.

For more information, see Figure E-38
in Appendix E.

Source:

BBC Research and Consulting.



Disparity analysis for contracts with and without DBE contract goals. BBC first separated ITD's federally-funded contracts into two time periods: 2002 through January 2006 (when the DBE contract goals program applied), and February through December 2006. BBC then compared disparity results for federally-funded contracts through January 2006 and state-funded contracts. ITD did not set DBE contract goals for contracts that had no federal funding.

Federally-funded contracts after January 2006. Figure IV-9 presented disparity indices for federally-funded contracts before and after ITD discontinued setting DBE contract goals on certain contracts.² (Figures E-39 and E-40 in Appendix E provide a more detailed analysis.) As Figure IV-9 indicates, there were disparities in the utilization of women-owned firms on federally-funded contracts after discontinuing the DBE contract goals program. During the time period of DBE contract goals, WBEs received a slightly higher share of contract dollars than would be expected from their relative availability (disparity index of 108). For the eleven months after discontinuing DBE contract goals, utilization of women-owned firms fell short of the share expected based on availability for that work (disparity index of 75).

² Not all of the federally-funded contracts for 2002 through January 2006 had DBE contract goals. Engineering-related work that was not awarded through an RFP process were not subject to DBE contract goals. ITD could also set 0 percent goals on certain projects. ITD reported anticipated levels of DBE participation for some federally-funded contracts after January 2006.

Figure IV-9.
Disparity indices for MBE/WBE
utilization as prime contractors
and subcontractors on
federally-funded transportation
construction and engineering
contracts, 2002–Jan. 2006 and
Feb.–Dec. 2006

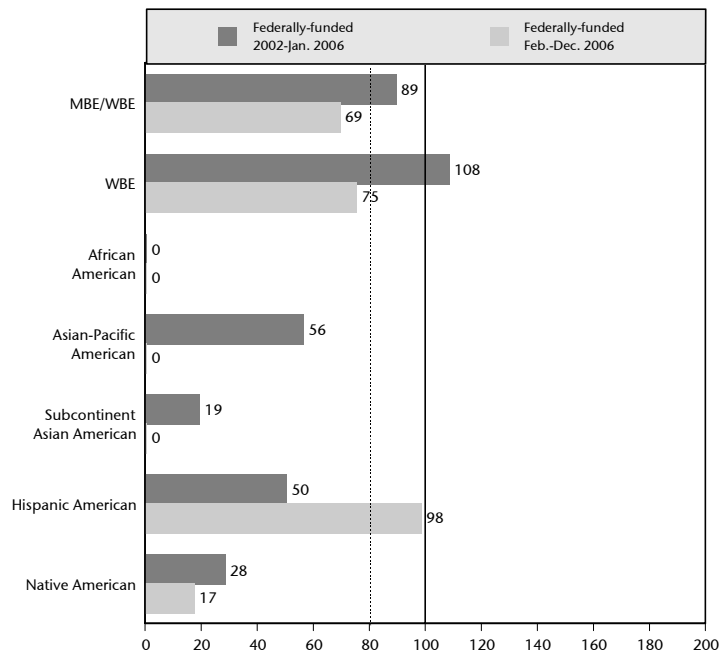
Note:

3,003 contracts/subcontracts for 2002–Jan. 2006 and
 440 for Feb.–Dec. 2006.

For more information, see Figures E-40 and E-39 in
 Appendix E.

Source:

BBC Research and Consulting.



Discontinuing DBE contract goals may have also negatively affected utilization of certain minority groups:

- None of the February through December 2006 federally-funded contracts or subcontracts went to firms identified as Asian-Pacific American-owned;
- Utilization of Subcontinent Asian American-owned firms also dropped to zero for this time period;
- The disparity identified for Native American-owned firms for all federally-funded contracts was more severe for the eleven months after DBE contract goals were discontinued; and
- No firms identified as African American-owned received any of the federally-funded contracts or subcontracts examined before or after January 2006.

Firms that BBC identified as Hispanic American-owned received 23 contracts or subcontracts for February through December 2006 totaling \$1.5 million, or 1 percent of the federally-funded contract dollars examined for this time period. The 1 percent utilization is on par with what would be expected based on relative availability of Hispanic American-owned firms to perform the federally-funded work in these eleven months.

State-funded contracts. Because ITD’s state-funded contracts have not included DBE contract goals, BBC also examined this set of contracts to further explore the impact of the DBE goals program. BBC was able to examine 1,118 prime contracts and subcontracts totaling \$239 million for 2002 through 2006.

Relative MBE/WBE availability is higher for state-funded contracts and subcontracts than for federally-funded contracts. State-funded contracts tend to be smaller than federally-funded contracts, and minority- and women-owned firms form a larger portion of the pool of firms that bid on smaller contracts, BBC calculated the overall utilization benchmark for MBE/WBE utilization for state-funded contracts to be about 20 percent of total contract dollars.

MBE/WBE utilization for state-funded contracts was 14.6 percent. Minority- and women-owned firms received about three-quarters of the state-funded contract dollars that would be expected based on their availability for this work. Figure IV-10 compares disparity indices for federally-funded contracts for 2002 through January 2006 and state-funded contracts for 2002-2006.

Results for women-owned firms show further evidence that utilization of WBEs falls short of what would be expected when the DBE contract goals program is not in place. The disparity index for WBEs for state-funded contracts was 81, close to the level of a “substantial disparity.”

Disparity indices for individual minority groups are similar for federally-funded contracts and state-funded contracts. Because disparities are large for each group with and without the DBE program, it suggests that the DBE goals did not have much effect on MBE utilization. The one exception to the consistent disparities for minority groups is that Asian-Pacific American-owned firms received more work on state-funded contracts than what would be expected from their availability to perform these contracts (disparity index of 151).

Figure IV-10.
Disparity indices for MBE/WBE utilization as prime contractors and subcontractors on federally- and state-funded transportation construction and engineering contracts

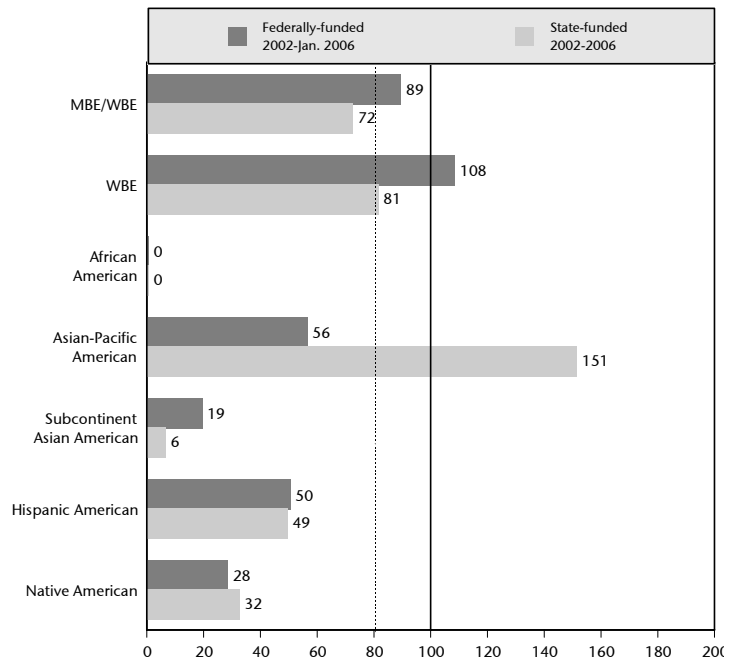
Note:

3,003 contracts/subcontracts for federally-funded and 1,118 for state-funded contracts.

For more detailed information, see Figure E-40 and E-80 in Appendix E.

Source:

BBC Research and Consulting.



Analysis of Statistical Significance of Any Disparities

Statistical significance of any disparities relates to the degree a researcher can reject “random chance” as a cause of the disparities. Often, chance in sampling of data is the factor that researchers consider in determining statistical significance of results. However, BBC attempted to contact every firm on the ITD bidders list or in the relevant set of firms identified by Dun & Bradstreet, as described in Appendix C. The utilization analysis also approaches a “population” of contracts. Therefore, any disparity found when comparing overall utilization with availability would be “statistically significant.” BBC used a more sophisticated analytical tool to examine statistical significance of disparity results.

**Figure IV-11.
Defining and Measuring
“Utilization”**

BBC conducted telephone interviews with 3,058 business establishments—a number of completed interviews that is so large as to often be treated as a “population,” not a sample. BBC’s analysis of the confidence interval around the estimate of MBE/WBEs representation among all firms available for ITD and local government transportation work, 23 percent, is accurate within about +/- 1.6 percentage points at the 95 percent confidence level (BBC applied the finite population correction factor when determining confidence intervals). At this level of accuracy in the availability analysis, a disparity index of 90 could technically be “statistically significant.” BBC’s availability figures for most minority groups are even more accurate. (By comparison, most survey results for proportions reported in the popular press are +/- 5 percentage points or, at best, +/- 3 percentage points.)

Monte Carlo simulation. There are many opportunities in the sets of prime contracts and subcontracts BBC analyzed for minority- and women-owned firms to be awarded work. Some contract elements involve large dollars and others may be only a few thousand dollars. Monte Carlo analysis is a useful tool because there are many individual chances at winning work and each has a different payoff.

The technique works as follows:

- The statistical analysis starts by examining an individual contract element (a prime contract or subcontract).
- BBC determined from the Availability Survey the individual firms “available” for that contract element based on type of work, prime versus subcontract role, size of the prime contract or subcontract, and location of the work. Each firm meeting those criteria in the Availability Survey were assumed to have an equal chance of receiving that contract element.
- The Monte Carlo simulation randomly chooses a firm for a contract element from the pool of available firms for that element. For example, the odds of a woman-owned firm receiving that contract element are equal to the number of women-owned firms available for that work divided by the total number of firms available for that contract element based on what is known about the contract element and the firms in the Availability Survey that meet those criteria.
- A single Monte Carlo simulation run then repeats the above process for all other contract elements in that set of contracts. The output of a single Monte Carlo run is simulated utilization of minority- and women-owned firms, by group, for that set of contract elements for that run.
- The Monte Carlo simulation is then repeated 1 million times for each set of contracts.

The output of a Monte Carlo simulation is the number of runs out of 1 million that produce a result observed in the actual data. For federally-funded contracts, about 200,000 out of the 1 million runs produced a level of overall MBE/WBE utilization that was equal to or below the actual utilization of 13.6 percent. However, for just Native American-owned firms, 3 of the 1 million simulation runs replicated a utilization level of Native American-owned firms of 0.7 percent or below.

BBC applied a 95 percent confidence level statistical standard, which is equivalent to a “two standard deviation test” sometimes applied by the courts when evaluating the statistical significance of the disparity results. Applying a two-tailed test, the maximum number of simulations that could equal or fall below actual utilization is 25,000 out of 1 million, or 2.5 percent of total simulation runs, for a result to found to be statistically significant. Because about 200,000 of the 1 million simulation runs for MBE/WBEs were equal to or below actual utilization of 13.6 percent, the overall disparity for MBE/WBEs is not statistically significant.

Results for federally-funded contracts. For federally-funded contracts from 2002 through January 2006, BBC can reject chance in contract and subcontract awards as an explanation of observed disparities for all groups with the exception of WBEs and Asian-Pacific American-owned firms based on the Monte Carlo simulations. Figure IV-12 presents results for federally-funded contracts through January 2006.

Figure IV-12.
Statistical significance of any observed disparities in MBE/WBE utilization for federally-funded construction and engineering contracts, 2002-Jan. 2006

MBE/WBE Group	Disparity Index	Number of simulation runs out of 1 million that replicated observed utilization	Odds of observed disparity occurring due to “chance”	Reject chance in awards of contract elements as cause of disparity?
MBE/WBE	89	204,128	20.41%	No
WBE	108	N/A	n/a	N/A
African American	0	0	*	Yes
Asian-Pacific American	56	95,271	9.53%	No
Subcontinent Asian American	19	9,894	0.99%	Yes
Hispanic American	50	3,950	0.40%	Yes
Native American	28	3	*	Yes

Note: Includes ITD contracts. Utilization and availability includes non-DBE-certified firms.
*=less than one hundredth of 1 percent.

Source: BBC Research and Consulting.

Results for federally-funded contracts after January 2006 are presented in Figure IV-13. Note that based on the Monte Carlo results, BBC can only reject chance as an explanation for Asian-Pacific American-owned businesses even though the disparity indices in Figure IV-13 are lower for most groups than the indices in Figure IV-12. The lack of “statistical significance” for these groups is due in part to the number of contract elements analyzed for Figure IV-13 (440 total contract elements, compared with 3,003 for Figure IV-12).

Figure IV-13.
Statistical significance of any observed disparities in MBE/WBE utilization for federally-funded construction and engineering contracts, Feb.-Dec. 2006

MBE/WBE Group	Disparity Index	Number of simulation runs out of 1 million that replicated observed utilization	Odds of observed disparity occurring due to "chance"	Reject chance in awards of contract elements as cause of disparity?
MBE/WBE	69	253,836	25.38%	No
WBE	75	399,866	39.99%	No
African American	0	38,168	3.82%	No
Asian-Pacific American	0	18,756	1.88%	Yes
Subcontinent Asian American	0	77,377	7.74%	No
Hispanic American	98	724,631	72.46%	No
Native American	17	98,279	9.83%	No

Note: Includes ITD contracts. Utilization and availability includes non-DBE-certified firms.

Source: BBC Research and Consulting.

Results for state-funded contracts. Figure IV-14 presents results of these statistical significance tests for state-funded contracts. BBC can also reject chance in contract and subcontract awards as an explanation of observed disparities on state-funded contracts for Native American-owned firms.

Lack of "statistical significance" in the disparity for African American-, Subcontinent Asian American- and Hispanic American-owned firms for state-funded contracts must be interpreted with caution. This is an issue with a statistical significance test for disparities involving small numbers. Some courts have recognized this issue when interpreting statistical results.

Figure IV-14.
Statistical significance of any observed disparities in MBE/WBE utilization for state-funded construction and engineering contracts, 2002-2006

MBE/WBE Group	Disparity Index	Number of simulation runs out of 1 million that replicated observed utilization	Odds of observed disparity occurring due to "chance"	Reject chance in awards of contract elements as cause of disparity?
MBE/WBE	72	16,004	1.60%	Yes
WBE	81	130,909	13.09%	No
African American	0	43,433	4.34%	No
Asian Pacific American	151	N/A	N/A	N/A
Subcontinent Asian American	6	160,188	16.02%	No
Hispanic American	49	88,081	8.80%	No
Native American	32	5,632	0.56%	Yes

Note: Includes ITD contracts. Utilization and availability includes non-DBE-certified firms.

*=less than one hundredth of 1 percent.

Source: BBC Research and Consulting.

Summary

Key information from the summary analysis of MBE/WBE utilization and availability includes:

- Firms certified as DBEs obtained 7.3 percent of contract dollars for federally-funded contracts awarded from 2002 through January 2006. However, a large portion of overall MBE/WBE utilization went to firms that were not certified as DBEs. Including all minority- and women-owned firms, MBE/WBE utilization on federally-funded contracts through January 2006 was 13.6 percent.
- Utilization of MBE/WBEs on federally-funded contracts fell to 10.8 percent for the eleven months following January 2006 when ITD discontinued the DBE contract goals program.
- Opportunities for white women-owned firms to participate in ITD contracts may be more favorable than minority-owned firms.
 - WBEs received 12.3 percent of federally-funded contract dollars for the time period when the program was in place, somewhat higher than what would be expected based on availability of white women-owned firms to perform this work.
 - Utilization of MBEs was 1.3 percent of federally-funded contract dollars through January 2006, only one-third of what would be expected for these contracts even with the DBE contract goals program in place. There were large disparities for each minority group.
 - Utilization of women-owned firms on state-funded contracts (without DBE goals) was about 81 percent of what would be expected based on WBE availability to perform this work. WBE utilization was 75 percent of what would be expected on federally-funded contracts after ITD discontinued setting DBE contract goals. BBC found much larger disparities for most minority groups.

This information, alone, may not be sufficient for ITD to make decisions as to future implementation of the Federal DBE Program. Using additional disparity analysis, other quantitative research and qualitative information, BBC explores why these overall disparities may be occurring in the following four sections of the report. Also, Appendix E provides considerable additional information concerning utilization of MBE/WBEs and certified DBEs on ITD projects. For example, Appendix E analyzes MBE/WBE and DBE utilization by year, and for each ITD district.

In sum, the disparity analysis presented in Section IV forms a starting point for BBC's analysis of MBE/WBE participation in ITD transportation contracting. The following four sections analyze MBE/WBE opportunities in:

- Construction subcontracts (Section V);
- Construction prime contracts (Section VI);
- Subcontracts on engineering-related contracts (Section VII); and
- Engineering-related prime contracts (Section VIII).